

**STATE OF ARIZONA**  
**AQUIFER PROTECTION PERMIT NO. P- 100523**  
**PLACE ID 2669, 2674, 2667, LTF None**

**1.0 AUTHORIZATION**

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A. A. C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, Freeport McMoran Copper and Gold is hereby authorized to operate facilities listed in this permit at the Phelps Dodge Miami, Inc. Mine, located near Miami, Arizona, over groundwater of the Pinal Creek groundwater basin, in Sections 13, 14, 15, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36 Township 1 N, Range 14 E; Sections 8, 9, 16, 17, 18, 19, 20, 21, 29, and 30, Township 1 N, Range 15 E; and Sections 2 and 3, Township 1 S, Range 14 E of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below, or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant, and as determined at the applicable POC, occurs as a result of the discharge from the facility.

**1.1 PERMITTEE INFORMATION**

<b>Facility Name:</b>	Phelps Dodge Miami, Inc. Mine	
<b>Permittee:</b>	<b>Mailing Address:</b>	<b>Facility's Street Address:</b>
Phelps Dodge Miami, Inc./ dba Freeport McMoran Copper and Gold	P.O. Box 4444 4342 E. U.S. Highway 60 Claypool, Arizona 85532	U.S. Hwy 60 & New Street Claypool, Arizona 85532
<b>Facility Contact:</b>	<b>Manager of Environmental and Land</b>	<b>(928) 473-7161</b>
<b>Emergency Telephone Number:</b>	(928) 473-7274	
<b>Latitude:</b> 33° 24' N.	<b>Longitude:</b> 110° 54' W.	

**Legal Description:** Sections 13, 14, 15, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36 Township 1 N, Range 14 E; Sections 8, 9, 16, 17, 18, 19, 20, 21, 29, and 30, Township 1 N, Range 15 E; and Sections 2 and 3, Township 1 S, Range 14 E of the Gila and Salt River Base Line and Meridian.

**1.2 AUTHORIZING SIGNATURE**

\_\_\_\_\_  
**Joan Card, Director**  
**Water Quality Division**  
**Arizona Department of Environmental Quality**  
**Signed this \_\_\_\_ day of \_\_\_\_\_, 2008**

**2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]****2.1 Facility / Site Description[A.R.S. § 49-243(K)(8)]**

The Phelps Dodge Miami, Inc. (PDMI) Mine, located adjacent to the Town of Miami, is an open-pit, porphyry-copper mining and smelting operation. Mining of the four open pits at the site temporarily ceased in 2001, but could resume at any time. The leaching of oxide ore previously placed at the 9/19/34/35 (southern) Leach Area, 27/28 (northern) Leach Area, and 40 Leach Dump continues. The mining of sulfide ore ceased in the mid-1980's. Mine activities include solvent extraction/electrowinning (SX/EW) of leach solution collected from continuing oxide leach activities, and the smelting of ore received from off-site at an on-site smelter.

The PDMI property facilities permitted in this permit include 19 process solution impoundments, 18 non-stormwater impoundments (including 1 for closure), 4 leach areas (including 1 for closure), 2 slag piles and two solid waste landfills.

This permit authorizes the operation of the discharging facilities described below:

**2.1.1 Upper 19 Cutoff (A30) (Process Solution Impoundment)**

Facility is an existing shotcrete-lined impoundment created behind a 12-inch wide concrete cutoff wall keyed into bedrock. The impoundment is equipped with an automated submersible pump that transfers fluid to the 19 Cutoff Station, then to 33 Reservoir. The facility has a fluid storage capacity of 0.37 acre-feet with a maximum depth of 9 feet below the spillway. The facility is designed to intercept stormwater and capture leach solutions from the #19 and #34 Leach Dumps. Stormwater run-off from the 10-year/24-hour storm event is diverted away from the facility using diversion channels. The impoundment is designed to overflow to Middle/Lower 19 Cutoffs.

**2.1.2 N28 Pond (A37) (Process Solution Impoundment)**

This facility is regulated as a new facility. The facility is a double-lined impoundment using 80-mil HDPE liners incorporating an LCRS and a cut-off trench. The bottom liner is underlain by a 6-inch thick layer of compacted native material. The facility has a fluid storage capacity of 12.97 acre-feet with a maximum depth of 10.4 feet below the spillway. The facility is designed to collect leach solutions and run-off from the N28 Leach Dump. Accumulated fluid in the impoundment is pumped to SX Feed Pond. Stormwater run-off from the 100-year/24-hour storm event is diverted away from the facility using diversion ditches around the impoundment perimeter.

**2.1.3 Acid Plant Emergency Pond (AP9) (Process Solution Impoundment)**

This facility is regulated as a new facility. The facility is a double-lined impoundment using 100-mil HDPE primary liner and 80-mil secondary liner incorporating an LCRS. The facility was constructed in 1987 and is recently upgraded with a new LCRS and upper 100-mil HDPE liner installed over the existing upper liner minimizing the potential for discharge. The facility has a fluid storage capacity of 9.5 acre-feet with a maximum depth of 10.4 feet below the spillway. The facility is designed to contain stormwater and operational upset flows from the Acid Plant, Solids Recovery Plant, and ReCOVER Plant under emergency conditions. Accumulated fluid in the impoundment is pumped to Raffinate SX Pond.

**2.1.4 Raffinate SX Pond(D1) (Process Solution Impoundment)**

Facility is an existing double-lined impoundment using 80-mil HDPE liners incorporating an LCRS over a composite shotcrete base. The facility has a fluid storage capacity of 1.9 million gallons with a maximum depth of 12.1 feet. The facility receives acidic solution from other process facilities and spent solution from the SX Plant. Accumulated fluid is pumped into the leach circuit. Stormwater run-off is diverted away from the facility.

**2.1.5 SX Feed Pond (D2) (Process Solution Impoundment)**

Facility is an existing single-lined impoundment using an 80-mil HDPE geomembrane over geotextile underlain by shotcreted surface of the impoundment. The facility has a fluid storage capacity of 3.6 million gallons with a maximum depth of 18 feet below the spillway. The facility receives PLS from the leach dumps. Accumulated fluid in the impoundment is gravity fed via HDPE pipeline to the SX Plant for processing. Overflow from the impoundment is routed via an HDPE pipeline to the Raffinate Pond. Stormwater run-off is diverted away from the facility.

**2.1.6 19 Reservoir (D3) (Process Solution Impoundment)**

Facility is an existing unlined impoundment excavated into a natural ravine that straddles the granite schist intrusive contact. Leach solutions are contained by zoned embankments. The embankments, Saddle Dam and Main Dam, are earthen clay core zoned dams with grouted bedrock with a cut-off trench and pumpback system downgradient of the Main Dam. The reservoir covers an area of approximately 1.9 acres. The facility has a fluid storage capacity of 26.6 million gallons with a maximum depth of 59 feet below the spillway. The facility receives PLS and run-off from the No. 16 and No. 19 Leach Dumps. Solution is periodically pumped from 35 Reservoir (D7) to 19 Reservoir. Accumulated fluid in the impoundment is pumped to the SX Feed Pond through an HDPE pipeline.

**2.1.7 27 Reservoir (D4) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment excavated into granodiorite and volcanic bedrock and is retained with an earth-fill clay-core dam. The facility has a fluid storage capacity of 9 million gallons with a depth of 19.2 feet below the spillway. The facility receives leachate (PLS) and run-off from the 27 Leach Dump. Accumulated fluid in the impoundment is pumped to the SX Feed Pond. Surface water run-off is diverted away from the facility.

**2.1.8 28 Reservoir (D5) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment excavated into granodiorite and volcanic bedrock and is retained with an earth-fill clay-core dam. The facility has a fluid storage capacity of 23 million gallons with a depth of 45.4 feet below spillway. The facility receives leachate (PLS) and run-off from the 28 Leach Dump. Accumulated fluid in the impoundment is pumped to the SX Feed Pond. Surface water run-off is diverted away from the facility.

**2.1.9 33 Reservoir (D6) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment created behind a retention embankment constructed of clayey material. The impoundment has a designed fluid storage capacity of 4 million gallons with a depth of 22 feet below the spillway. The facility receives leachate (PLS) and run-off from the 34 Leach Dump. Accumulated fluid in the impoundment is pumped to the 19 Reservoir (D3) and 35 Reservoir (D7). Surface water run-off is diverted away from the facility.

**2.1.10 35 Reservoir (D7) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment created behind a clay-core dam keyed into grouted bedrock foundation. The impoundment has a designed fluid storage capacity of 32.5 million gallons with a depth of 58.9 feet below the spillway. The facility receives leachate (PLS) and run-off from the 34/35 Leach Area. Accumulated fluid in the impoundment is pumped to the SX Feed Pond. Surface water run-off is diverted away from the facility.

**2.1.11 On Pond (D8) (Process Solution Impoundment)**

This facility is regulated as a new facility. The facility is a double-lined surface impoundment built in the ancestral Live Oak drainage. The impoundment is double-lined with 60-mil HDPE primary and secondary liners incorporating an LCRS and an underdrain collection system. The secondary liner is a composite liner underlain with at least 6 inches of 3/8-inch minus clayey material. The impoundment has a designed fluid storage capacity of 9.5 million gallons, with a depth of 6.5 feet below the spillway. The impoundment is a secondary pond to the C Pond system and provides containment of

potential seepage and overflow from the C Pond. Accumulated fluid in the impoundment is pumped to the C Pond. Surface water run-off is diverted away from the facility.

**2.1.12 C Pond (D9) (Process Solution Impoundment)**

Facility is an existing compartmentalized, unlined surface impoundment excavated into bedrock and is retained with an earthen embankment. The impoundment has a designed fluid storage capacity of 9.5 million gallons with a depth of 19.7 feet below the spillway. The impoundment receives PLS and run-off from the 9 Leach Dump and is also used to store raffinate. The PLS accumulated in the impoundment is pumped to the 19 Reservoir. The raffinate solution is pumped into the leach circuit. Overflow is discharged to the On Pond and potential seepage from the impoundment is also collected by the underdrain collection system at the On Pond. Surface water run-off is diverted away from the facility.

**2.1.13 Ox 1a Reservoir (D10) (Process Solution Impoundment)**

Facility is an existing double-lined surface impoundment excavated to granite bedrock. The liner system consists of an 80-mil HDPE primary and secondary liners incorporating an LCRS. The bottom liner is a composite liner underlain with at least 6 inches of 3/8-inch minus native material. The impoundment has a designed fluid storage capacity of 6.6 million gallons with a depth of 15.8 feet below the spillway. The impoundment receives PLS and run-off from 40 Leach Dump. Accumulated fluid is pumped to 35 Reservoir and ultimately to the SX Feed Pond, 40 Leach Dump, or Upper Oxhide Pit. The impoundment lies in series with Ox 2 which acts as a sediment basin for Ox 1a. The facility is bermed to prevent stormwater run-on into the impoundment.

**2.1.14 Ox 2 Reservoir (D11) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment excavated to granite bedrock, and acts primarily as a sedimentation pond for pond Ox 1a. Containment of influent is provided by a steel rebar-reinforced concrete cantilever retaining wall with stainless steel outlet pipes and gate valves. The impoundment has a designed fluid storage capacity of 0.55 million gallons with a depth of 17 feet below the spillway. The impoundment receives PLS and run-off from the northern half of 40 Leach Dump. Accumulated fluid gravity flows to Ox 1a or 35 Reservoir via pipeline for conveyance.

**2.1.15 Ox 3a Reservoir (D12) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment excavated to granite bedrock. The facility is upgraded by replacing the previous concrete and earthen dam with a roller-compacted concrete retention dam. The dam is 46 feet tall and is keyed into bedrock. The upstream face of the dam is lined with an HDPE liner hot tarred to the adjacent granite. A manually controlled pumpback system is installed immediately downstream of the dam. The impoundment has a design fluid storage capacity of 13.55 million gallons with a depth of 42 feet below the spillway. The impoundment receives PLS from the 40/1 Leach area. Accumulated fluid gravity flows to Ox 1a via pipeline for conveyance.

**2.1.16 Davis Canyon Reservoir (D13) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment created behind an earthen berm with a concrete core and grouted foundation. The impoundment has a design fluid storage capacity of 4.4 million gallons with a depth of 16 feet below the spillway. The impoundment receives PLS drainage as a result of infiltrating precipitation from the inactive 5 Leach Dump. Accumulated fluid is pumped to C Pond.

**2.1.17 South Detention Pond (D14) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment that collects PLS from 19/9 Leach area. The facility is created with an earthen embankment. Accumulated fluid is decanted to C Pond. The underdrain collection system at On Pond also provides containment for pond seepage.

**2.1.18 Upper Oxhide Pit (E1) (Process Solution Impoundment)**

Facility is an existing open pit used to store stormwater and process solution. The impoundment has a fluid storage capacity of approximately 800 million gallons. Employing head reduction at a level 40 feet below the discharge level, is used to minimize potential discharge into the aquifer. The total depth of the pit below the discharge level is 190 feet.

**2.1.19 #9 Pumpback (E11) (Process Solution Impoundment)**

Facility is an existing unlined surface impoundment, excavated in bedrock, and constructed with an earthen embankment. The impoundment has a design fluid storage capacity of 11 million gallons with a depth of 41 feet below the spillway. The impoundment receives PLS breakout from the 9 Leach Dump. Accumulated fluid is pumped into the leach circuit. Surface water run-off is diverted away from the facility.

**2.1.20 Ioli Pond (A1) (Non-Stormwater Impoundment)**

Facility is an existing unlined surface impoundment formed by a natural bedrock depression. The impoundment has a fluid storage capacity of approximately 7.2 million gallons. The impoundment receives stormwater from a drainage basin unimpacted by mining activities. However, the pond is impounded by 40 Leach Dump. A small bedrock ridge separates the pond from Trethewey Pond, and during high water periods the two ponds intermingle. Outflow from the pond is natural seepage into the downgradient 40 Leach Dump.

**2.1.21 Trethewey Pond (A3) (Non-Stormwater Impoundment)**

Facility is an existing unlined surface impoundment formed by a natural bedrock depression. The impoundment has a fluid storage capacity of approximately 0.79 million gallons. The impoundment receives stormwater from a drainage basin unimpacted by mining activities and periodically collects overflow from Ioli Pond, which is in contact with 40 Leach Dump. Accumulated fluid is pumped into the operations cycle.

**2.1.22 Waldo's Pond (A16) (Non-Stormwater Impoundment)**

Facility is an existing surface impoundment upgraded with an 80-mil HDPE geomembrane and 12 oz non-woven geotextile overlying compacted native material. The impoundment has concrete sump and a riprap reinforced earthen embankment. The impoundment has a fluid storage capacity of approximately 0.64 million gallons with a depth of 8.5 feet below the spillway. The impoundment collects surface flow from Railroad Wash. Accumulated fluids in the pond are pumped to TP #6 for water re-use. During large magnitude storm events, Waldo's Pond can overflow to the Waldo's Overflow Pond.

The AZPDES permit that authorized Waldo's Pond to discharge to 004 Discharge Pond expired in November of 2006 and was not renewed. Therefore, discharges are no longer permitted to the 004 Discharge Pond.

**2.1.23 Middle 19 Cutoff (A31) (Non-Stormwater Impoundment)**

Facility is an existing surface impoundment constructed in bedrock. The impoundment is lined with shotcrete. Water is impounded by a reinforced concrete cutoff wall keyed into bedrock. The impoundment has a fluid storage capacity of approximately 0.52 ac-ft with a depth of 9 feet below the spillway. The impoundment receives run-off, and pumpback from Lower 19 Cutoff, and overflows to Lower 19 Cutoff. Accumulated fluid is pumped through an HDPE pipeline to 33 Reservoir.

**2.1.24 Lower 19 Cutoff (A32) (Non-Stormwater Impoundment)**

Facility is an existing, recently upgraded, surface impoundment constructed in bedrock. The impoundment is lined with shotcrete and equipped with a concrete sump. Water is impounded by a reinforced concrete cutoff wall keyed into bedrock. The impoundment has a fluid storage capacity of approximately 0.13 ac-ft with a depth of 12 feet below the spillway. The impoundment receives

stormwater and overflow from the Middle 19 Cutoff. Accumulated fluid is pumped through an HDPE pipeline to Middle 19 Cutoff.

**2.1.25 Cowboy Pond (A36) (Non-Stormwater Impoundment)**

This facility is regulated as a new facility. The facility is a surface impoundment constructed with an earthen embankment and lined with an 80-mil HDPE geomembrane overlying a prepared subgrade of compacted native material. The impoundment has a fluid storage capacity of approximately 0.6 million gallons with a depth of 12 feet below the spillway. The impoundment receives impacted stormwater from the 40 Leach Dump and surface water run-off from adjacent undisturbed areas. Accumulated fluid is pumped through an HDPE pipeline to Ox 3a Reservoir.

**2.1.26 Freshwater Overflow Pond (A41) (Non-Stormwater Impoundment)**

Facility is an existing, unlined surface impoundment created by natural depression in the granite bedrock. The impoundment has a fluid storage capacity of approximately 7 million gallons. The impoundment receives stormwater overflows from the Oxhide Freshwater Pond, which is used as water source for livestock. The overflow pond impounds against the 40 Leach Dump.

**2.1.27 #6 Decant (A50) (Non-Stormwater Impoundment)**

Facility is an existing, unlined surface impoundment excavated into Gila conglomerate. The impoundment has a fluid storage capacity of 0.61 million gallons with a depth of approximately 6 feet. The impoundment collects decant water from TP #6 West Pond, which contains stormwater and industrial water. Accumulated fluid gravity flows through concrete sump to the industrial water tank at Kiser Station.

**2.1.28 Waldo's Overflow #1 (B6) (Non-Stormwater Impoundment)**

Facility is an existing, unlined surface impoundment constructed in Gila Conglomerate with an earthen berm. The impoundment has a fluid storage capacity of 2 million gallons with a depth of approximately 10 feet below the spillway. The impoundment provides contingency storage for the overflow from Waldo's Pond during low-frequency, high-intensity storm events. Accumulated fluid is pumped into the operations cycle for water re-use.

**2.1.29 Barney North Pit Pond (E2) (Non-Stormwater Impoundment)**

Facility is an existing small mine pit excavated from 1979 to 1980. The pit is inactive and is used for storage of neutralized industrial mine circuit water. It is excavated at the contact of the dacite caprock and Pinal Schist basement rock. The pit has a fluid storage capacity of approximately 146 million gallons with a depth of 81 feet. Accumulated fluids are used in the operations cycle.

**2.1.30 Ammonium Neutralization Pond (E9) (Non-Stormwater Impoundment)**

Facility is an existing, single-lined surface water pond constructed in the BL Pit with an earthen berm. The pond liner consists of an 80-mil HDPE geomembrane overlying compacted fill of natural material. The pond has a fluid storage capacity of approximately 0.78 million gallons with a depth of 20 feet. The pond is used to transfer water from the BL Pit (via the BL staging Pond) to Barney Pit, C-Pond, and SX Feed Pond. The facility was originally used to neutralize acidic water for use in the mine circuit. The neutralization system is no longer used and is dismantled.

**2.1.31 BL Staging Pond (E10) (Non-Stormwater Impoundment)**

Facility is an existing, single-lined surface water pond constructed in the BL Pit with an earthen berm. The pond liner consists of an 80-mil HDPE geomembrane overlying compacted subgrade of natural material. The pond has a fluid storage capacity of approximately 0.2 million gallons with a depth of 15 feet. The pond is used to transfer water from the BL Pit to the Ammonium Neutralization Pond as part of the BL Pit dewatering circuit.

**2.1.32 BL Pit Pond(G2) (Non-Stormwater Impoundment)**

Facility is an existing pond located in the bottom of an open pit excavated into Pinal Schist bedrock. The Pinal Schist bedrock has hydraulic conductivity of approximately  $5 \times 10^{-6}$  cm/sec. The pit is approximately 770 feet deep. The pond at the bottom of the pit is used to store stormwater and process upset events. Accumulated fluids are utilized in the operations cycle.

**2.1.33 Lower Oxhide Pit (G3) (Non-Stormwater Impoundment)**

Facility is an existing pond located in the bottom of an open pit in bedrock excavated into Schultz Granite bedrock. The pit is approximately 450 feet deep. The pit is used to store stormwater, and process upset events. Accumulated fluids are utilized in the operations cycle.

**2.1.34 Webster Creek Diversion (TH9) (Non-Stormwater Impoundment)**

Facility is an existing unlined conveyance channel for draining surface water from a portion of the Tankhouse area to a caisson. The conveyance channel is located in relatively low hydraulic conductivity bedrock with hydraulic conductivity of approximately  $3 \times 10^{-7}$  cm/sec.

**2.1.35 TP #2 North Pond (TP2a) (Non-Stormwater Impoundment)**

Facility is an existing surface impoundment used primarily to store and evaporate discharges from the water softener. The facility is also used to store and evaporate WQARF remedial water. The pond is excavated into the clayey slime tailings, 20 to 40 feet thick, of the Tailings Impoundment No. 2. The pond has a fluid storage capacity of approximately 37 million gallons with a depth of 5 feet.

**2.1.36 TP #6 West Pond (TP6W) (Non-Stormwater Impoundment)**

Facility is an existing, unlined surface impoundment that contains stormwater and effluent from the water softening system in a topographically low portion of the Tailings Impoundment No. 6. Water is decanted from the pond to No. 6 Decant Pond.

**2.1.37 #9/34/35/19 Leach Area (G8) (Leach Dump)**

Facility is an existing, unlined, oxide leach area that consists of the contiguous # 9, 19, 34, and 35 leach dumps. These dumps are constructed, using the end dumping method, over moderate-to-steeply sloping topography. These dumps have been continuously leached since 1967. The natural channels, within the leach dump footprint, are underlain by Schultz Granite bedrock. The facility covers a surface area of approximately 498 acres. The leachate (PLS) gravity flows to #19, 33 and 35 Reservoirs; the Upper 19 Cutoff; and to C Pond. Run-on from the 100-year/24-hour storm event is diverted away from the facility.

**2.1.38 #40 Leach Area (G20) (Leach Dump)**

Facility is an existing, unlined, oxide leach dump constructed, using the end dumping method, over moderate-to-steeply sloping topography. The dump has been leached since the late 1960s. The natural channels, within the leach dump footprint, are underlain by Schultz Granite/Pinal Schist bedrock. The facility covers a surface area of approximately 151 acres. The leachate (PLS) gravity flows to the Ox 1a and Ox 3a impoundments. Run-on from the 100-year/24-hour storm event is diverted away from the facility. The maximum height of the facility will not exceed 270 feet.

**2.1.39 #27/28 Leach Area (G24) (Leach Dump)**

Facility is an existing, unlined, oxide leach area that consists of the #27 and 28 leach dumps. These dumps are constructed, using the end dumping method, over moderate-to-steeply sloping topography. The natural channels, within the leach dump footprint, are underlain by dacite, Willow Spring Granodiorite, diabase, and conglomerate bedrock. The facility covers a surface area of approximately 390 acres. The leachate (PLS) gravity flows to the 27, 28, and North 28 Ponds. Run-on from the 100-year/24-hour storm event is diverted away from the facility. The maximum height of the facility shall not exceed 433 feet.

**2.1.40 #2 Slag Pile (G30) (Slag Pile)**

The existing facility is deposited on mill tailings, slimes and native soil in the Ellison Canyon. The underlying bedrock is Gila conglomerate. The facility covers a maximum surface area of approximately 33 acres as of December 2004. Run-on from the 100-year/24-hour storm event is diverted away from the facility. Run-off from the facility reports through Ellison pond to the industrial circuit.

**2.1.41 #3 Slag Pile (G32) (Slag Pile)**

The existing facility is deposited on mill tailings, slimes and native soil north of the Smelter in ancestral Webster Gulch. The underlying bedrock is Gila conglomerate. The facility covers a maximum surface area of approximately 60 acres as of December 2004. Run-on from the 100-year/24-hour storm event is diverted away from the facility. Run-off from the facility reports through No. 1 Tailings Pond and TP #6 to the industrial circuit.

The following discharging facilities shall be closed according to the Compliance Schedule Section 3.0:

**2.1.42 Old 3 Million Reservoir (E8)(Non-Stormwater Impoundment)**

This existing facility has a concrete liner with Gila Conglomerate fill serving as a perimeter berm. It was used to store water from the industrial circuit. It is approximately 18 feet deep, and has a capacity of 3.5 million gallons. It is located on a ridge, and underlain by Gila Conglomerate.

**2.1.43 #1 Leach Stockpile (G21)(Leach Dump)**

This existing facility, which was leached until approximately 1998, covers an area of about 23 acres. It contains about 1.33 cubic yards of material (2.4 million tons). Leach solution was previously collected in reservoirs Ox 1a and Ox 3a. The only current input of water is from direct precipitation on the stockpile, which drains into the active #40 Stockpile. There is no run-on, as the stockpile represents the highest point in the watershed. Run-on around the toe is redirected toward the Upper Oxhide Pit. The stockpile was constructed over a basal asphalt liner, underlain primarily by the Schultze Granite bedrock.

**Annual Registration Fee [A.R.S. § 49-242(E)]**

The Annual Registration Fee for this permit is established by A.R.S. § 49-242(E) and is payable to ADEQ each year. The design flow is more than 10 million gallons per day.

**Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203 ]**

The permittee shall maintain financial capability throughout the life of the facility. Phelps Dodge demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The estimated closure and post-closure costs are \$23,547,573 and \$213,268, respectively. The financial assurance mechanism was demonstrated through A.A.C. R18-9-A203(C)(8). As the new owner, Freeport McMoran must demonstrate their Financial Capability and the Financial Assurance mechanism they will use within 3 months of permit issuance as indicated in Section 3.0 Compliance Schedule.

**2.2 Best Available Demonstrated Control Technology****[A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]**

For facilities listed in Section 4, Table 4.1.1, design and construction details are described in the APP application and supplemental file documents. Also, this technical information outlines how each facility shall be operated to ensure the greatest degree of discharge reduction achievable through application of BADCT, processes, operating methods or other alternatives, including, where practicable, a technology permitting no discharge of pollutants. All permitted facilities shall be constructed, operated, and maintained in accordance with BADCT, as outlined in the application and Section 4, Table 4.1.1. All facilities have been evaluated for BADCT under APP requirements, except for those facilities for which information related to the BADCT evaluation is required to be submitted under the compliance schedule (Section 3.0).

**2.2.1 Engineering Design**



The facilities list, with BADCT descriptions, is included in Section 4, Table 4.1.1.

### 2.2.2 Site-specific Characteristics

See BADCT Table 4.1.1

### 2.2.3 Pre-Operational Requirements

Not applicable.

### 2.2.4 Operational Requirements

Permitted facilities shall be inspected for performance levels listed in Section 4.2, Table 4.2.1

If damage is identified during an inspection that could cause or contribute to an unauthorized discharge, proper repairs shall be promptly performed. A summary of the repairs, including a description of the procedures and materials used shall be maintained with the inspection records noted above.

The Action Leakage Rates and Rapid and Large Leakage Rates shall be determined as required in the Compliance Schedule for the following facilities:

Table 2.2.4 Leakage Rates for LCRS Facilities		
Facility Name (#)	Action Leakage Rate (GPD)	Rapid and Large Leakage Rate (GPD)
N28 Pond (A37)	Reserved	Reserved
Raffinate Pond (D1)	Reserved	Reserved
Acid Plant Emergency Pond (AP9)	Reserved	Reserved
On Pond (D8)	Reserved	Reserved
Ox 1A(D10)	Reserved	Reserved

GPD = Gallons per day.

## 2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

The permittee shall operate and maintain all permitted facilities listed below to prevent unauthorized discharges pursuant to A.R.S. §§ 49-201(12) resulting from failure or bypassing of BADCT pollutant control technologies including liner failure<sup>1</sup>, uncontrollable leakage, overtopping (e.g., exceeding the maximum storage capacity, defined as a fluid level exceeding the crest elevation of a permitted impoundment), berm breaches that result in an unexpected loss of fluid, accidental spills, or other unauthorized discharges. The discharge limitations in this section are not applicable to any discharge caused by precipitation in excess of a single 100-year/24-hour storm event or process overflow during a power outage exceeding 24 hours in duration.

### 2.3.1 Leaching Facilities

The Leaching Facilities are designed and authorized for use in leaching of ore and other copper bearing materials that can be economically processed. The Leaching Facilities shall be constructed and operated in accordance with the BADCT outlined in Section 4, Table 4.1.1, and the ultimate heights shall not exceed those elevations set forth in Table 4.1.1.

### 2.3.2 Pregnant Leach Solution (PLS) Ponds and Impoundments

The PLS Ponds and Impoundments are designed and authorized to receive pregnant leach solution,

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<sup>1</sup> Liner failure in a single-lined impoundment is any condition that would result in leakage exceeding 550 gallons per day per acre.

stormwater, process water and process upset events.

### 2.3.3 Non-Stormwater Impoundments

The permitted non-stormwater impoundments are authorized to receive stormwater run-off and run-on, and process solutions as a result of storm events or process upset events.

### 2.4 Point(s) of Compliance (P.O.C.) [A.R.S. § 49-244]

The Points of Compliance are established by the following monitoring locations:

<b>Well ID</b>	<b>Type</b>	<b>Sub-basin</b>	<b>Latitude</b>	<b>Longitude</b>
TAA-3*	Monitoring Well	Tailings Pile	33° 25' 19" N	110° 50' 6" W
TAG-3*	Monitoring Well	Tailings Pile	33° 25' 19" N	110° 50' 6" W
SCW-3*	Monitoring Well	Webster Gulch	33° 24' 48" N	110° 51' 05" W
SCW-1*	Monitoring Well	Webster Gulch	33° 24' 40" N	110° 51' 42" W
N28-1	Monitoring Well	Webster Gulch	33° 25' 44" N	110° 54' 39" W
DC-2*	Monitoring Well	Bloody Tanks Davis Canyon Drainage	33° 23' 54" N	110° 52' 34" W
DC-4*	Monitoring Well	Bloody Tanks Davis Canyon Drainage	33° 23' 54" N	110° 52' 34" W
LO-7*	Monitoring Well	Bloody Tanks Live Oak Drainage	33° 23' 38" N	110° 52' 48" W
LO-2*	Monitoring Well	Bloody Tanks Live Oak Drainage	33° 23' 39" N	110° 52' 58" W
LO-4*	Monitoring Well	Bloody Tanks Live Oaks Drainage	33° 23' 42" N	110° 52' 53" W
A-1*	Monitoring Well	Bloody Tanks Drainage A	33° 23' 30" N	110° 52' 52" W
D-1*	Monitoring Well	Bloody Tanks Drainage D	33° 23' 20" N	110° 53' 11" W
E-1*	Monitoring Well	Bloody Tanks Drainage E	33° 23' 12" N	110° 53' 18" W
F-1*	Monitoring Well	Bloody Tanks Drainage F	33° 23' 10" N	110° 53' 25" W
33-1*	Monitoring Well	Bloody Tanks Drainage F	33° 23' 32" N	110° 52' 52" W
BB-9*	Monitoring Well	Bloody Tanks 35 Reservoir Drainage	33° 23' 05" N	110° 53' 25" W
BB-10*	Monitoring Well	Bloody Tanks 35 Reservoir Drainage	33° 23' 05" N	110° 53' 26" W
H-1	Monitoring Well	Oxhide Western Drainage	33° 22' 31" N	110° 55' 36" W
BT-89	Monitoring Well	Oxhide Eastern Basin	33° 22' 35" N.	110° 54' 40" W.

- \* These sixteen (16) POCs are established by groundwater monitoring wells which are already installed, but will not be required to be monitored under this APP at this time. The groundwater quality at these POCs is characterized by acidic metal-bearing groundwater, and these POCs are located in areas impacted by contamination currently being remediated under the Water Quality Assurance Revolving Fund (WQARF) Program. Once remediation under the WQARF Program is completed, ADEQ shall amend this permit to establish ALs and AQLs based on the WQARF cleanup levels approved by ADEQ, and to initiate compliance

monitoring for these sixteen groundwater monitor wells. Until that time, the analytical results of the WQARF required monitoring of groundwater in these wells shall be forwarded to the Groundwater Section, APP & Drywell Unit (GWS/APPDWU).

Monitoring requirements for each P.O.C. are listed in Section 4, Table 4.2.3 and 4.2.4.

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

## **2.5 Monitoring Requirements [A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]**

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. Copies of laboratory analyses and chain of custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

### **2.5.1 Discharge Monitoring**

None required by this permit.

### **2.5.2 Facility / Operational Monitoring**

The operational monitoring requirements for the facilities referenced in Section 4.1, Table 4.1.1 are listed in Section 4, Table 4.2.1.

### **2.5.3 Groundwater Monitoring and Sampling Protocols**

#### **2.5.3.1 Groundwater Sampling Protocol**

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80% of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling.

If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self Monitoring Report Form (SMRF).

As an alternative method for sampling, the permittee may conduct the sampling using the low-flow purging method as described in the Arizona Water Resources Research Center, March 1995 *Field Manual for Water Quality Sampling*. The well must be purged until indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

#### **2.5.3.2 Ambient Groundwater Monitoring for POC Wells**

Per the Compliance Schedule, eight (8) consecutive months of groundwater sampling shall be completed in monitor wells H-1, BT-89, and N28-1 to establish ambient groundwater quality. Each monthly ambient groundwater sample shall be analyzed for the parameters listed in Section 4, Table 4.2.2. Ambient sampling is not required for POC wells in WQARF impacted drainages (See Table 2.4.1 footnote).

The establishment of ALs and AQLs for the POCs in the WQARF impacted drainages is

required upon completion of WQARF required remediation (See Table 2.4.1 footnote).

### **2.5.3.3 Alert Levels for POC Wells**

ALs for POC wells H-1, BT-89 and N-28-1 shall be calculated for all contaminants with an established numeric AWQS at the designated POCs.

Where ambient sampling is required, within ninety (90) days of the receipt of the laboratory analyses for the final quarter or month of the ambient groundwater monitoring period for each POC well the permittee shall submit the ambient groundwater data in tabulated form to the GWS-APPDWU for review. Copies of all laboratory analytical reports, field notes, and the Quality Assurance/Quality Control (QA/QC) procedures used in collection and analyses of the samples for all parameters listed in Section 4, Table 4.2.2 to be established for each POC well, shall be submitted to the GWS-APPDWU. The permittee may submit a report with the calculations for each AL and AQL included in the permit for review and approval by ADEQ, or the permittee may defer calculation of the ALs and AQLs by the GWS-APPDWU. The ALs shall be established and calculated by the following formula, or another statistically valid method submitted to GWS-APPDWU in writing and approved for this permit by the GWS-APPDWU:

$$AL = \bar{0} + K\Phi$$

Where  $\bar{0}$  = mean,  $\Phi$  = standard deviation, and K = one-sided normal tolerance interval with a 95% confidence level (Lieberman, G.J. (1958) Tables for One-sided Statistical Tolerance Limits: Industrial Quality Control, Vol. XIV, No. 10). Obvious outliers should be excluded from the data used in the AL calculation.

The following criteria shall be met in establishing ALs in the permit:

1. The AL shall be calculated for a parameter using the analyses from a minimum of eight (8) consecutive sample events. The permittee shall not use more than twelve (12) sample rounds in the calculation of a parameter.
2. Any data where the PQL exceeds 80% of the AWQS shall not be included in the AL calculation.
3. If a parameter is below the detection limit, the permittee must report the value as "less than" the numeric value for the PQL or detection limit for the parameter, not just as "non-detect". For those parameters, the permittee shall use a value of one-half the reported detection limit for the AL calculation.
4. If the analytical results from more than 50% of the samples for a specific parameter are non-detect, then the AL shall be set at 80% of the AWQS and the AQL at the AWQS.

### **2.5.3.4 Aquifer Quality Limits for POC Wells**

For each of the monitored analytes for which a numeric AWQS has been adopted, the AQL shall be established as follows:

1. If the calculated AL is less than the AWQS, then the AQL shall be set equal to the AWQS.
2. If the calculated AL is greater than the AWQS, then the AQL shall be set equal to the calculated AL value, and no AL shall be set for that constituent at that monitoring point.

### **2.5.3.5 Compliance Groundwater Quality Monitoring for POC Wells**

Quarterly compliance groundwater monitoring in POC wells H-1, BT-89, and N28-1 shall commence within the first calendar quarter following completion of the ambient sampling period. For quarterly compliance monitoring, the permittee shall analyze groundwater

samples for the parameters listed in Section 4, Table 4.2.3. In addition to quarterly compliance groundwater monitoring, every two (2) years (biennial) the permittee shall analyze samples from the POC wells for an expanded list of parameters listed in Section 4, Table 4.2.4. The biennial sampling event shall replace the regularly scheduled quarterly sampling event.

Compliance monitoring for POC wells in WQARF impacted drainages designated in the footnote of Table 2.4.1 shall conform to the monitoring required by the approved WQARF remedial action plan.

The permittee may submit a written request to GWS/APPDWU to modify, reduce, or delete a monitoring parameter in the quarterly or biennial compliance groundwater monitoring tables (Section 4, Tables 4.2.3 and 4.2.4) in accordance with the following criteria:

1. The parameter in question has not been detected for at least two (2) consecutive biennial or four (4) consecutive quarterly monitoring events in the well. The PQL reported by the laboratory shall be less than 80% of the established numeric AWQS, and shall not be greater than three (3) times the laboratory method detection limit for that parameter.
2. The permittee shall submit a written report indicating the parameter(s) proposed for modification, accompanied by supporting data, including laboratory analytical reports and quality assurance/quality control data, to the ADEQ GWS/APPDWU for review.
3. Upon review, the GWS/APPDWU will determine if the modification(s) requested is justified and approved. The respective changes, if approved, will require an amendment to the permit.

#### **2.5.3.6 POC Well Replacement**

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, insufficient water in the well for more than 2 sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty (50) feet or less from the original well, the ALs and/or AQLs calculated for the designated POC well shall apply to the replacement well.

#### **2.5.4 Surface Water Monitoring and Sampling Protocols**

None required by this permit.

#### **2.5.5 Analytical Methodology**

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state certified laboratories can be obtained at the address below:

Arizona Department of Health Services  
Office of Laboratory Licensure and Certification  
250 North 17<sup>th</sup> Avenue  
Phoenix, AZ 85007  
Phone: (602) 364-0720

#### **2.5.6 Installation and Maintenance of Monitoring Equipment**

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval

prior to installation and the permit shall be amended to include any new monitoring points.

## **2.6 Contingency Plan Requirements**

**[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]**

### **2.6.1 General Contingency Plan Requirements**

At least one copy of the approved contingency and emergency response plan submitted in response to the Compliance Schedule, Section 3.0 shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plan.

Any alert level (AL) that is exceeded or any violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

### **2.6.2 Exceeding of Alert Levels**

#### **2.6.2.1 Exceeding of Alert Levels Set for Operational Conditions**

##### **1. Performance Levels Set for Freeboard**

In the event that freeboard performance levels in a surface impoundment are not maintained, the permittee shall:

- a. As soon as practicable, cease or reduce discharging to the impoundment to prevent overtopping. Remove and properly dispose or recycle to other operations the excess fluid in the impoundment until the water level is restored at or below the permitted freeboard limit.
- b. Within 5 days of discovery, evaluate the cause of the incident and adjust operational conditions as necessary to avoid future occurrences.
- c. Record in the facility log, the amount of fluid removed, a description of the removal method, and the disposal arrangements. The facility log shall be maintained according to Section 2.7.2 (Operational Inspection / Log Book Recordkeeping). Records documenting each freeboard incident and actions taken to correct the problem shall be included in the current report as required in Section 2.7.1 (Self Monitoring Report Forms).
- d. The facility is no longer on alert status once the operational indicator no longer indicates that the performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

**2. Performance Levels, Other Than Freeboard**

- a. If an operational AL listed in Section 4, Table 4.2.1 has been observed or noted during required inspection and operational monitoring, such that the result could cause or contribute to an unauthorized discharge, the permittee shall immediately investigate to determine the cause of the condition. The investigation shall include the following:
  - i. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the operational performance condition.
  - ii. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences.
- b. The AL exceedance, results of the investigation, and any corrective action taken shall be reported to the Water Quality Compliance Section (WQCS), within thirty (30) days of the discovery of the condition. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.
- c. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 3 and any specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL being exceeded. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
- d. The facility is no longer on alert status once the operational indicator no longer indicates that the performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

**2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring**

Not applicable for this permit.

**2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring**

**2.6.2.3.1 Alert Levels for Indicator Parameters**

Not applicable for this permit.

**2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards**

1. If an AL for a pollutant set in Section 4, Tables 4.2.3, or 4.2.4 has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AL being exceeded. The permittee may use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms the AL being exceeded or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to monthly. In addition, the permittee shall immediately initiate an investigation of the cause of the AL being exceeded, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.
3. The permittee shall initiate actions identified in the approved contingency

plan and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL being exceeded. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Section, that although an AL is exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.

4. Within thirty (30) days after confirmation of an AL being exceeded, the permittee shall submit the laboratory results to the Water Quality Compliance Section, Data Unit along with a summary of the findings of the investigation, the cause of the AL being exceeded, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.
6. The increased monitoring required as a result of an AL being exceeded shall be reduced to the regularly scheduled frequency, if the results of three (3) consecutive monthly sequential sampling events demonstrate that no parameters exceed the AL.

**2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards**

Not applicable for this permit.

**2.6.2.4 Exceedance of Action Leakage Rate for Process Solution Impoundments**

At a minimum, the permittee shall initiate the following actions within three (3) days of becoming aware of an exceedance of an action leakage rate for a facility listed in Section 2.2.4, Table 2.2.4. All information shall be recorded in a log book as described in Section 2.7.2. The permittee shall:

1. Drain and/or pump out all fluid collected in the leak collection and recovery system (LCRS) to reduce head on the liner system;
2. Quantify and record the amount of fluid pumped from the leak collection and recovery system on a weekly basis until the leakage rate is no longer exceeded;
3. Assess the potential for migration of liquids out of the containment system; and,
4. Assess the current condition of the liner system.
5. Take appropriate corrective action to mitigate the cause(s) of the exceedance.

**2.6.2.5 Rapid and Large Leakage Exceedance in the Process Solution Impoundments**

Additional response actions based on rapid and large leakage rate (RLL) for a facility listed in Section 2.2.4, Table 2.2.4 shall include the following:

1. Notify the WQCS within twenty- four (24) hours of becoming aware of the exceedance,
2. Reduce the hydraulic head on the liner including emptying of the portion of the impoundment over the affected liner,
3. Conduct visual inspection to identify areas of leakage,
4. Repair all identified areas of leakage within ninety (90) days of discovery,
5. Initiate closure, temporary cessation, or partial closure of the impoundment if identified areas of leakage cannot be repaired within ninety (90) days of discovery,
6. After repairs have been made, monitor the leakage rate on a weekly basis while the impoundment is being filled, and for a period of three (3) months after filling.



Within thirty (30) days of a confirmed RLL exceedance, the permittee shall submit a written report to the GWS-APPDWU. The written report shall include a description of the exceedance and its potential causes, the period of exceedance and the anticipated time period during which the exceedance is expected to continue, and a description of any actions taken or planned to be taken to eliminate or prevent recurrence of the exceedance and to mitigate the impacts of the exceedance. Upon approval of the GWS-APPDWU, the permittee shall initiate the actions necessary to mitigate the impacts of the exceedance.

## **2.6.3 Discharge Limitations (DL) Violations**

### **2.6.3.1 Liner Failure, Containment Structure Failure, or Unexpected Loss of Fluid**

In the event of liner failure, containment structure failure, or unexpected loss of fluid as described in Section 2.3, the permittee shall take the following actions:

1. As soon as practicable, cease all non-gravity inflows to the surface impoundment as necessary to prevent any further releases to the environment.
2. Within 24-hours of discovery, notify ADEQ Water Quality Compliance Section.
3. Within five (5) days of discovery of a failure that resulted in a release to the subsurface, collect representative samples of the fluid remaining in the surface impoundment. Samples shall be analyzed for the parameters specified in Section 4, Table 4.2.3. Within thirty (30) days of the incident, submit a copy of the analytical results to ADEQ Water Quality Compliance Section.
4. Within fifteen (15) days of discovery, initiate an evaluation to determine the cause for the incident. Identify the circumstances that resulted in the failure and assess the condition of the surface impoundment and liner system. Implement corrective actions as necessary to resolve the problems identified in the evaluation. Initiate repairs to any failed liner, system, structure, or other component as needed to restore proper functioning of the surface impoundment. The permittee shall not resume discharging to the surface impoundment until repairs of any failed liner or structure are performed. Repair procedures, methods, and materials used to restore the system(s) to proper operating condition shall be described in the facility log/recordkeeping file and available for ADEQ review.
5. As soon as practicable, remove fluid remaining in the surface impoundment as necessary to prevent further releases to the subsurface and/or to perform repairs. Record in the facility log/recordkeeping file the amount of fluid removed, a description of the removal method, and other disposal arrangements. The facility log/recordkeeping file shall be maintained according to Section 2.7.2 (Operation Inspection / Log/Recordkeeping File).
6. Within thirty (30) days of discovery of the incident, submit a report to ADEQ as specified in Section 2.7.3.2 (Permit Violation and AL Status Reporting). Include a description of the actions performed in Subsections 1 through 5 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
7. Within sixty (60) days of discovery, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident. If soil or groundwater is impacted such that it could cause or contribute to an exceedance of an AQL at the applicable point of compliance, submit to ADEQ, for approval, a corrective action plan to address such impacts, including identification of remedial actions and/or monitoring, and a schedule for completion of activities. At the direction of ADEQ, the permittee shall implement the approved plan.
8. Within thirty (30) days of completion of corrective actions, submit to ADEQ, a written report as specified in section 2.6.6 (Corrective Actions). Upon review of the report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

**2.6.3.2 Overtopping of a Surface Impoundment**

If overtopping of fluid from a permitted surface impoundment occurs, and results in a discharge pursuant to A.R.S. §§ 49-201(12), the permittee shall:

1. As soon as practicable, cease all non-gravity inflows to the surface impoundment to prevent any further releases to the environment.
2. Within 24-hours of discovery, notify ADEQ Water Quality Compliance Section.
3. Within five (5) days, collect representative samples of the fluid contained in the surface impoundment. Samples shall be analyzed for the parameters specified in Section 4, Table 4.2.3. Within thirty (30) days of the incident, submit a copy of the analytical results to ADEQ Water Quality Compliance Section.
4. As soon as practicable, remove and properly dispose of excess water in the impoundment until the water level is restored at or below the appropriate freeboard as described in Table 4.1.1. Record in the facility log, the amount of fluid removed, a description of the removal method, and the disposal arrangements. The facility log/recordkeeping file shall be maintained according to Section 2.7.2 (Operation Inspection / Log/Recordkeeping File).
5. Within thirty (30) days of discovery, evaluate the cause of the overtopping and identify the circumstances that resulted in the incident. Implement corrective actions and adjust operational conditions as necessary to resolve the problems identified in the evaluation. Repair any systems as necessary to prevent future occurrences of overtopping.
6. Within thirty (30) days of discovery of overtopping, submit a report to ADEQ as specified in section 2.7.3.2 (Permit Violation and AL Status Reporting). Include a description of the actions performed in Subsections 1 through 5 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
7. Within sixty (60) days of discovery, and based on sampling in Subsection 3 above, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident.
8. If soil or groundwater is impacted such that it could cause or contribute to an exceedance of an AQL at the applicable point of compliance, submit to ADEQ for approval, a corrective action plan to address such impacts, including identification of remedial actions and/or monitoring, and a schedule for completion of activities. At the direction of ADEQ, the permittee shall implement the approved plan.
9. Within thirty (30) days of completion of corrective actions, submit to ADEQ, a written report as specified in Section 2.6.6 (Corrective Actions). Upon review of the report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

**2.6.3.3 Inflows of Unexpected Materials to a Surface Impoundment**

The types of materials that are expected to be placed in the permitted surface impoundments are specified in Section 2.3 (Discharge Limitations). If any unexpected materials flow to a permitted surface impoundment, the permittee shall:

1. As soon as practicable, cease all unexpected inflows to the surface impoundment(s).
2. Within 24-hours of discovery, notify ADEQ Water Quality Compliance Section.
3. Within five (5) days of the incident, identify the source of the material and determine the cause for the inflow. Characterize the unexpected material and contents of the affected impoundment, and evaluate the volume and concentration of the material to determine if it is compatible with the surface impoundment liner. Based on the evaluation of the incident, repair any systems or equipment and/or adjust operations, as necessary to prevent future occurrences of inflows of unexpected materials.
4. Within thirty (30) days of an inflow of unexpected materials, submit a report to ADEQ as specified in section 2.7.3.2 (Permit Violation and AL Status Reporting). Include a

description of the actions performed in Subsections 1 through 3 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.

5. Upon review of the report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

#### **2.6.4 Aquifer Quality Limit (AQL) Violation**

1. If an AQL set in Section 4, Tables 4.2.3 or 4.2.4 has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AQL being exceeded. The permittee may use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms that the AQL is violated for any parameter or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to monthly. In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.
4. The permittee shall notify any downstream or downgradient users who may be directly affected by the discharge.
5. The permittee shall continue monitoring at the increased frequency until the contaminant(s) is below the AQL and AL for three consecutive months.

#### **2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. § 49-201(12) and pursuant to A.R.S. § 49-241**

##### **2.6.5.1 Duty to Respond**

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

##### **2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(18)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the spilled material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Field Service Unit (WQFSU) at (602) 771-4620 within 24-hours upon discovering the discharge of hazardous material which:

- a) has the potential to cause an AWQS or AQL to be exceeded; or b) could pose an

endangerment to public health or the environment.

**2.6.5.3 Discharge of Non-hazardous Materials**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible.

The permittee shall notify the ADEQ WQFSU at (602) 771-4620 within 24-hours upon discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL to be exceeded at the point of compliance; or b) could pose an endangerment to public health or the environment.

**2.6.5.4 Reporting Requirements**

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to ADEQ WQFSU within thirty (30) days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

**2.6.6 Corrective Actions**

Specific contingency measures identified in Section 2.6 and actions identified in the approved contingency plan referenced in Section 3.0 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

**2.7 Reporting and Recordkeeping Requirements**

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

**2.7.1 Self Monitoring Report Forms (SMRF)**

1. The permittee shall complete the SMRFs provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered

on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.

3. The tables contained in Section 4 list the parameters to be monitored and the frequency for reporting results for groundwater compliance monitoring. Analytical methods shall be recorded on the SMRFs.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

#### **2.7.2 Operation Inspection / Log Book Recordkeeping**

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and shift inspection was conducted;
3. Condition of applicable facility components;
4. Any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time;
6. Any other information required by this permit to be entered in the log book, and
7. Monitoring records for each measurement shall comply with R18-9 A206(B)(2).

#### **2.7.3 Permit Violation and Alert Level Status Reporting**

1. The permittee shall notify the Water Quality Compliance Section in writing within five days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation or of an Alert Level being exceeded.
2. The permittee shall submit a written report to the Water Quality Compliance Section within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
  - a. Identification and description of the permit condition for which there has been a violation and a description of its cause.
  - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.
  - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation.
  - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.
  - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring.
  - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

#### **2.7.4 Operational, Other or Miscellaneous Reporting**

The permittee shall, upon completion of the biennial sampling described in Table 4.2.4, submit a monitoring summary report to the Groundwater Section. This report shall be due at the same time as the SMRF form for the biennial sampling event. The report shall include, but not be limited to the following:

1. A description of any deviations from standard sampling protocols during the reporting period.

2. A summary of all exceedances of ALs, AQLs, Action Levels, DLs, or operational limits that occurred during the reporting period.
3. Graphical time versus concentration plots of field pH, sulfate, total dissolved solids, and any parameter which exceeded an applicable AL or AQL in the past eight quarters at each POC well, and tabulated sampling data for all wells required to be sampled by this permit during the last eight quarters.
4. An updated table of all monitor wells and piezometers in the Discharge Impact Area including, but not limited to, location of well, depth of well, depth to water, and water level elevation.
5. A summary of any groundwater monitor wells replaced in the reporting period including, but not limited to, location of well, depth of well, depth to water, water level elevation, and screened interval.

A notification of any additional WQARF Remedial Action Plans (RAP) implemented must also be forwarded to the GWS, along with a brief summary of the RAP, and a description of any impact to APP permitted facilities or permit conditions.

**2.7.5 Reporting Location**

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality  
Water Quality Compliance Section, Data Unit  
Mail Code: 5415B-1  
1110 W. Washington Street  
Phoenix, AZ 85007  
Phone (602) 771-4513

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to:

Arizona Department of Environmental Quality  
Water Quality Compliance Section  
Mail Code: 5415B-1  
1110 W. Washington Street  
Phoenix, AZ 85007  
Phone (602) 771-4614

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:

Arizona Department of Environmental Quality  
Groundwater Section  
Mail Code: 5415B-3  
1110 W. Washington Street  
Phoenix, AZ 85007  
Phone (602) 771-4428

**2.7.6 Reporting Deadline**

The following table lists the quarterly report due dates:

<b>Monitoring conducted during quarter:</b>	<b>Quarterly Report due by:</b>
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

The following table lists the biennial report due date:

<b>Monitoring conducted during biennial period:</b>	<b>Biennial Report due by:</b>
January-December	January 30

**2.7.7 Changes to Facility Information in Section 1.0**

The Groundwater Section and Water Quality Compliance Section shall be notified within 10 days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person or Emergency Telephone Number.

**2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]**

The permittee shall give written notice to the Water Quality Compliance Section before ceasing operation of any facility covered by this permit for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ's approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility every three years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

**2.9 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]**

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section of the permittee's intent to cease operation without resuming activity for which the facility was designed or operated.

**2.9.1 Closure Plan**

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a Closure Plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(1)(a). Furthermore, the plan shall include the following specific activities:

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

**2.9.2 Closure Completion**

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Section indicating that the approved Closure Plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of Post-Closure stated in this permit:

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with aquifer water quality standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

**2.10 Post-Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]**

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a Post-Closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-Closure Plan shall meet all requirements of A.R.S. §§ 49-201(30) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-Closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-Closure Plan.

**2.10.1 Post-Closure Plan**

Reserved.

**2.10.2 Post-Closure Completion**

Reserved.



**3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]**

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section. A copy of the cover letter must also be submitted to the Water Quality Compliance Section, Data Unit. All items may result in action to amend this permit.

<b>Table 3.0.1 General Compliance Schedule Items</b>		
<b>ITEM DESCRIPTION</b>	<b>TIME TO COMPLETE (Months from permit issuance)</b>	<b>REQUIREMENTS</b>
<b>Financial Assurance</b>		
Closure and Post-Closure Costs	3	Submit as an amendment to the APP, a demonstration of the Closure and Post-Closure costs associated with the closure of the facilities regulated under this APP.
Financial Assurance Mechanism	3	Submit as an amendment to the APP, the Financial Assurance Mechanism to be used to cover Closure and Post-Closure costs.

<b>Table 3.0.2 Compliance Schedule for Hydrology</b>		
<b>ITEM DESCRIPTION</b>	<b>TIME TO COMPLETE</b>	<b>REQUIREMENTS</b>
<b>POINT OF COMPLIANCE WELLS</b>		
Ambient Water Quality Monitoring For POC Wells H-1, BT-89, and N28-1 and the calculation of Alert Levels (AL) and Aquifer Quality Limits (AQL) for POC wells H-1, BT-89, and N28-1	Twelve (12) months after the effective date of APP No. P-100523	The wells shall be sampled for ambient water quality monthly for eight (8) sampling events. The wells shall be sampled for all of the parameters listed in Table 4.2.2. Submit upon completion of the ambient sampling period, as an amendment to the APP, copies of all laboratory analytical reports, field notes, the QA/QC data used in collection and analysis of the samples, and a report including the statistical calculations of the ALs and AQLs to ADEQ GWS.
<b>CONTINGENCY AND EMERGENCY RESPONSE PLAN</b>		
Contingency and Emergency Response Plan	Within twelve (12) months after effective date of APP P-100523	Permittee shall submit a contingency and emergency response plan that complies with the requirements of Arizona Administrative Code R18-9-A204.

<b>Table 3.0.3 Compliance Schedule for Engineering</b>
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Facility Name (#)	Time To Complete	Requirements
<b>BADCT/ENGINEERING</b>		
N28 Pond (A37)  Raffinate Pond (D1)  Acid Plant Emergency Pond (AP9)  On Pond (D8)  Ox 1a (D10)	Within three (3) months of effective date of permit	Submit as an amendment to the APP, the Action Leakage Rate (ALR) and the rate for the Rapid and Large Leakage (RLL). The calculations shall be done in accordance with the ADEQ memo MU03:0057, dated 3/31/2003 or other analytical method approved by ADEQ.
19 Reservoir (D3)  27 Reservoir (D4)  28 Reservoir (D5)  New Landfill	Within twelve (12) months of effective date of permit.	Submit as an amendment to the APP, the BADCT approach, identifying the preferred upgrade and two copies of facility design or as-built drawings and operational details of the preferred upgrade. The preferred upgrade shall satisfy the requirements of A.R.S. 49-243(B)(1) consistent with the Arizona Mining BADCT Guidance Manual.
Davis Canyon Reservoir (D13)  South Detention Pond (D14)  Barney North Pit (E2)  BL Pit (G2)  Lower Oxhide Pit Pond (G3)	Within twenty-four (24) months of effective date of permit.	Submit as an amendment to the APP, the BADCT approach, identifying the preferred upgrade and two copies of facility design or as-built drawings and operational details of the preferred upgrade. The preferred upgrade shall satisfy the requirements of A.R.S. 49-243(B)(1) consistent with the Arizona Mining BADCT Guidance Manual.

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<b>Table 3.0.3 Compliance Schedule for Engineering</b>		
<b>Facility Name (#)</b>	<b>Time To Complete</b>	<b>Requirements</b>
<b>BADCT/ENGINEERING</b>		
TP #6 West Pond (TP6W)	Within thirty-six (36) months of effective date of permit.	Submit as an amendment to the APP, 2 copies of the stability analysis (static and pseudostatic) of Tailings Impoundment No 6, containing TP #6 West Pond. The stability analysis shall include minimum beach distance that must be maintained between the edge of the ponded water and the adjacent embankment crest of the tailings impoundment.  If the stability evaluation indicates the need for corrective measures to sustain acceptable safety factor, submit as an amendment a revised BADCT approach, identifying the preferred upgrade(s) with 2 copies of proposed design, construction and operational details of the preferred upgrades(s)
#1 Leach Stockpile (G21)  Old 3 Million Reservoir (E8)  Old Landfill	Within thirty-six (36) months of effective date of permit.	Submit as an amendment to the APP, a closure/post-closure plan, identifying a method for facility closure, including 2 copies of the scope of work plan for the site investigation, and 2 copies of the closure/post-closure plan with design details for closure. The closure/post-closure plan shall meet the requirements of A.R.S. 49-252 and A.A.C. 18-9-A209(B) and (C).
33 Reservoir (D6)  35 Reservoir (D7)  C Pond (D9)	Within forty-eight (48) months of effective date of permit.	Submit as an amendment to the APP, the BADCT approach, identifying the preferred upgrade and two copies of facility design or as-built drawings and operational details of the preferred upgrade. The preferred upgrade shall satisfy the requirements of A.R.S. 49-243(B)(1) consistent with the Arizona Mining BADCT Guidance Manual.

Notes: Existing Facilities BADCT Demonstration:

Step 1 – Identify current DCTs and site factors

Step 2 – Determine aquifer loading

Step 3 – Identify technically feasible alternative DCTs

Step 4 – Weigh cost vs. discharge reduction for each alternative system to arrive at BADCT

For additional details regarding requirements for existing facilities BADCT demonstration, refer to Arizona Mining BADCT Guidance Manual.

## **4.0 TABLES AND FIGURES**

### **4.1 FACILITY TABLES**

TABLE 4.1.1 Permitted Facilities and BADCT

### **4.2 COMPLIANCE AND OPERATIONAL MONITORING**

TABLE 4.2.1 Required Inspections and Operational Monitoring

TABLE 4.2.2 Table of Parameters for Ambient Groundwater Monitoring in POC Wells

TABLE 4.2.3 Quarterly Compliance Groundwater Monitoring Requirements for POC Wells

TABLE 4.2.4 Biennial Compliance Groundwater Monitoring Requirements for POC Wells

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
<b>Process Solution Impoundments</b>			
A30	Upper 19 Cutoff	33° 23' 14" N 110° 53' 19" W	<b>Individual BADCT:</b> Facility is an existing shotcrete-lined impoundment created behind a 12-inch wide concrete cutoff wall keyed into bedrock, with relatively low hydraulic conductivity of $7 \times 10^{-6}$ cm /sec. The impoundment is equipped with an automated submersible pump that transfers fluid to the 19 Cutoff Station, then to 33 Reservoir. The facility has a fluid storage capacity of 0.37 acre-feet with a maximum depth of 9 feet below the spillway. The facility is designed to intercept stormwater and capture leach solutions from the #19 and #34 Leach Dumps. Stormwater run-off from the 10-year/24-hour storm event is diverted away from the facility using diversion channels. The impoundment is designed to overflow to Middle/Lower 19 Cutoffs.
A37	N28 Pond New Facility	33° 25' 44" N 110° 54' 39" W	<b>Prescriptive BADCT:</b> Facility is a double-lined impoundment using 80-mil HDPE liners incorporating an LCRS and a cut-off trench. The LCRS consists of a drainage layer using geonet between the two liners. The bottom liner is underlain by a 6-inch thick layer of compacted native material. The facility has a fluid storage capacity of 12.97 acre-feet with a maximum depth of 10.4 feet below the spillway. The facility is designed to collect leach solutions and run-off from the N28 Leach Dump. Accumulated fluid in the impoundment is pumped to SX Feed Pond. Stormwater run-off from the 100-year/24-hour storm event is diverted away from the facility using diversion ditches around the impoundment perimeter. Action Leakage Rate (ALR) and Rapid and Large Leakage (RLL) shall be determined under the Compliance Schedule (see Section 3.0 Compliance Schedule).
AP9	Acid Plant Emergency Pond New Facility	33° 24' 51" N 110° 51' 33" W	<b>Individual BADCT:</b> Facility is a double-lined impoundment using 100-mil HDPE primary liner and 80-mil secondary liner incorporating an LCRS. The LCRS consists of a drainage layer using geonet between the two liners. The facility has a fluid storage capacity of 9.5 acre-feet with a maximum depth of 10.4 feet below the spillway. The facility is designed to contain stormwater and operational upset flows from the Acid Plant, Solids Recovery Plant and ReCUVER Plant lines under emergency conditions. Accumulated fluid in the impoundment is pumped to Raffinate SX Pond. The facility is designed to contain run-off from the 100-year/24-hour storm event. Action Leakage Rate (ALR) and Rapid and Large Leakage (RLL) for the facility shall be determined under the Compliance Schedule (see Section 3.0 Compliance Schedule).

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
D1	Raffinate SX Pond	33° 24' 46" N 110° 54' 27" W	<p><b>Individual BADCT:</b> Facility is an existing double-lined impoundment using 80-mil HDPE liners incorporating an LCRS over a composite shotcrete base. The facility has a fluid storage capacity of 1.9 Mgal with a maximum depth of 12.1 feet. The facility receives acidic solution from other process facilities and spent solution from SX Plant. Accumulated fluid is pumped into the leach circuit. Stormwater run-off is diverted away from the facility. The Action leakage Rate (ALR) and Rapid and Large Leakage Rate (RLL) shall be determined in accordance with the Compliance Schedule (See Section 3.0 Compliance Schedule).</p> <p><b>Individual BADCT:</b> Facility is an existing single-lined impoundment using an 80-mil HDPE geomembrane over geotextile underlain by shotcreted surface of the impoundment. The underlying bedrock, Pinal Schist, has hydraulic conductivity ranging from <math>3 \times 10^{-8}</math> cm/sec to <math>1 \times 10^{-6}</math> cm/sec. The facility has a fluid storage capacity of 3.6 Mgal with a maximum depth of 18 feet below the spillway. The facility receives PLS from the leach dumps. Accumulated fluid in the impoundment is gravity fed via HDPE pipeline to the SX Plant for processing. Overflow from the impoundment is routed via an HDPE pipeline to the Raffinate Pond. Stormwater run-off is diverted away from the facility.</p> <p>Facilities BADCT shall be determined by the Compliance Schedule (see Section 3.0 Compliance Schedule).</p>
D2	SX Feed Pond		
D3	19 Reservoir	33° 23' 34" N 110° 52' 56" W	
D4	27 Reservoir	33° 25' 03" N 110° 54' 21" W	
D5	28 Reservoir	33° 25' 12" N 110° 54' 19" W	
D6	33 Reservoir	33° 23' 16" N 110° 53' 28" W	
D7	35 Reservoir	33° 23' 03" N 110° 53' 41" W	
D9	C Pond	33° 23' 54" N 110° 53' 31" W	<p><b>Prescriptive BADCT:</b> Facility is a double-lined surface impoundment built in the ancestral</p>
D8	On Pond	33° 23' 53" N	

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
	New Facility	110° 53' 06" W	Live Oak drainage. The impoundment is double-lined with 60-mil HDPE primary and secondary liners incorporating an LCRS. The LCRS consists of a drainage layer using geonet between the two liners. The secondary liner is a composite liner underlain with at least 6 inches of 3/8-inch minus clayey material compacted to achieve a saturated hydraulic conductivity no greater than $1 \times 10^{-6}$ cm /sec. The liners are secured in an engineered anchor trench. The impoundment has a designed fluid storage capacity of 9.5 Mgal with a depth of 6.5 feet below the spillway. Accumulated fluid in the impoundment is pumped to the C Pond. Containment of flows from the 100-year/24-hour storm event is provided in tandem with C Pond. Surface water run-off is diverted away from the facility. The Action Leakage Rate (ALR) and Rapid and Large Leakage Rate (RLL) shall be determined under the Compliance Schedule (See Section 3.0 Compliance Schedule).
D10	Ox 1a Reservoir	33° 22' 50" N 110° 55' 08" W	<b>Prescriptive BADCT:</b> Facility is an existing double-lined surface impoundment excavated to granite bedrock. The liner system consists of 80-mil HDPE primary and secondary liners incorporating an LCRS. The LCRS consists of a drainage layer using geonet between the two liners. The bottom liner is a composite liner underlain with at least 6 inches of 3/8-inch minus native material compacted to achieve a saturated hydraulic conductivity no greater than $1 \times 10^{-6}$ cm /sec. The liners are secured in an engineered anchor trench. The impoundment has a designed fluid storage capacity of 6.6 Mgal with a depth of 15.8 feet below the spillway. The impoundment receives PLS and run-off from 40 Leach Dump. Accumulated fluid is pumped to 35 Reservoir and ultimately to the SX Feed Pond, 40 Leach Dump, or Upper Oxhide Pit. The impoundment lies in series with Ox 2 which acts as a sediment basin for Ox 1a. The facility has adequate capacity to contain the direct precipitation from a 100-year/24-hour storm event, and is bermed to prevent stormwater run-on into the impoundment. The Action Leakage Rate (ALR) and Rapid and Large Leakage Rate (RLL) shall be determined under the Compliance Schedule (See Section 3.0 Compliance Schedule).
D11	Ox 2 Reservoir	33° 22' 54" N	<b>Individual BADCT:</b> Facility is an existing unlined surface impoundment excavated to

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
		110° 56' 16" W	granite bedrock and acts primarily as a sedimentation pond for pond Ox 1a. The underlying bedrock has hydraulic conductivity ranging from $5 \times 10^{-8}$ cm /sec to $4 \times 10^{-6}$ cm /sec. Containment of influent is provided by a steel rebar-reinforced concrete cantilever retaining wall with stainless steel outlet pipes and gate valves. The impoundment has a designed fluid storage capacity of 0.55 Mgal with a depth of 17 feet below the spillway. The impoundment receives PLS and run-off from the northern half of 40 Leach Dump. Accumulated fluid gravity flows to Ox 1a or 35 Reservoir via pipeline for conveyance.
D12	Ox 3a Reservoir	33° 24' 44" N 110° 55' 22" W	<b>Individual BADCT:</b> Facility is an existing unlined surface impoundment excavated to granite bedrock. The bedrock has low hydraulic conductivity ranging from $5 \times 10^{-8}$ cm /sec to $4 \times 10^{-6}$ cm /sec. The facility is upgraded by replacing the previous concrete and earthen dam with a roller-compacted concrete retention dam. The dam is 46 feet tall and is keyed into bedrock. The upstream face of the dam is lined with an HDPE liner hot tarred to the adjacent granite. A manually controlled pumpback system is installed immediately downstream of the dam. The impoundment has a designed fluid storage capacity of 13.55 Mgal with a depth of 42 feet below the spillway. The impoundment receives PLS from the 40/1 Leach area. Accumulated fluid gravity flows to Ox 1a via pipeline for conveyance. The facility is designed to contain run-on from the 100-year/24-hour storm event.
D13	Davis Canyon Reservoir	33° 23' 55" N 110° 52' 38" W	Facility BADCT shall be determined by the Compliance Schedule (see Section 3.0 Compliance Schedule).
D14	South Detention Pond	33° 23' 45" N 110° 53' 22" W	
E1	Upper Oxhide Pit	33° 23' 08" N 110° 54' 85" W	<b>Individual BADCT:</b> Facility is an open pit used to store stormwater and process solution. The pit overlies Pinal Schist and granite bedrock with low hydraulic conductivity ranging from $5 \times 10^{-8}$ cm /sec to $4 \times 10^{-6}$ cm /sec. The impoundment has a fluid storage capacity of approximately 800 Mgal. A discharge control technology (DCT), employing head reduction at level 40 feet below the discharge level, is used to minimize potential discharge into the aquifer. The total depth of the pit below the discharge level is 190 feet.
E11	#9 Pumpback	33° 24' 01" N	<b>Individual BADCT:</b> Facility is an existing unlined surface impoundment, excavated in



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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
		110° 53' 58" W	bedrock, and constructed with an earthen embankment. The facility overlies low permeability granite bedrock with hydraulic conductivity ranging from $5 \times 10^{-8}$ cm/sec to $4 \times 10^{-6}$ cm/sec. The impoundment has a designed fluid storage capacity of 11 Mgal with a depth of 41 feet below the spillway. The impoundment receives PLS breakout from the 9 Leach Dump. Accumulated fluid is pumped into the leach circuit. The impoundment has sufficient capacity to contain flows from the 100-year/24-hour storm event. Surface water run-off is diverted away from the facility.
<b>Non-stormwater Impoundments</b>			
A1	Ioli Pond	33° 22' 40" N 110° 55' 48" W	<b>Individual BADCT:</b> Facility is an existing unlined surface impoundment formed by a natural bedrock depression. The bedrock has relatively low hydraulic conductivity of approximately $8 \times 10^{-6}$ cm/sec. The impoundment has a fluid storage capacity of approximately 7.2 Mgal. The impoundment receives stormwater from a drainage basin unimpacted by mining activities. The pond is impounded by 40 Leach Dump.
A3	Tretheway Pond	33° 22' 40" N 110° 55' 48" W	<b>Individual BADCT:</b> Facility is an existing unlined surface impoundment formed by a natural bedrock depression. The underlying granite bedrock has relatively low hydraulic conductivity of approximately $8 \times 10^{-6}$ cm/sec. The impoundment has a fluid storage capacity of approximately 0.79 Mgal. The impoundment receives stormwater from a drainage basin unimpacted by mining activities and periodically collects overflow from the Ioli Pond, which is in contact with 40 Leach Dump.
A16	Waldo's Pond	33° 24' 47" N 110° 51' 07" W	<b>Prescriptive BADCT:</b> Facility is an existing surface impoundment upgraded with an 80-mil HDPE geomembrane and 12 oz non-woven geotextile overlying compacted native material. The impoundment has concrete sump and a riprap reinforced earthen embankment. The impoundment has fluid storage capacity of approximately 0.64 Mgal with a depth of 8.5 feet below the spillway. The impoundment collects surface flow from Railroad Wash. Accumulated fluids in the pond are pumped to TP#6 for water re-use. The system is designed so during large magnitude storm events, Waldo's Pond may overflow to Waldo's Overflow Pond and then overflow to the 004 Discharge Pond. Containment of flows from the 100-year/24-hour storm event is provided in combination with Waldo Overflow #1 and #2 Ponds.  The Water Quality Surface Water Section, Surface Water Permits Unit did not renew the AZPDES permit for the 004 Discharge Pond which expired in November 2006 because the applicant demonstrated the pond would never discharge.
A31	Middle 19 Cutoff	33° 23' 14" N	<b>Individual BADCT:</b> Facility is an existing, upgraded surface impoundment constructed in

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
		110° 53' 19" W	bedrock. The impoundment is lined with shotcrete. Water is impounded by a reinforced concrete cutoff wall keyed into bedrock. The underlying granite bedrock has relatively low hydraulic conductivity of approximately $7 \times 10^{-6}$ cm /sec. The impoundment has a fluid storage capacity of approximately 0.52 ac-ft with a depth of 9 feet below the spillway. The impoundment receives run-off, pumpback solutions from Lower 19 Cutoff, and overflows to Lower 19 Cutoff. Accumulated fluid is pumped through an HDPE pipeline to 33 Reservoir. Stormwater run-off from the 100-year/24-hour storm event is diverted away from the facility using diversion ditches around the impoundment perimeter.
A32	Lower 19 Cutoff	33° 23' 13" N 110° 53' 19" W	<b>Individual BADCT:</b> Facility is an existing, recently upgraded, surface impoundment constructed in bedrock. The impoundment is lined with shotcrete and equipped with a concrete sump. Water is impounded by a reinforced concrete cutoff wall keyed into bedrock. The underlying granite bedrock has relatively low hydraulic conductivity of approximately $7 \times 10^{-6}$ cm /sec. The impoundment has a fluid storage capacity of approximately 0.13 ac-ft with a depth of 12 feet below the spillway. The impoundment receives stormwater and overflow from the Middle 19 Cutoff. Accumulated fluid is pumped through an HDPE pipeline to Middle 19 Cutoff. Surface water diversion channels minimize stormwater flows into the impoundment. Stormwater run-off from the 100-year/24-hour storm event is diverted away from the facility using diversion ditches around the impoundment perimeter.
A36	Cowboy Pond New Facility	33° 22' 32" N 110° 55' 35" W	<b>Prescriptive BADCT:</b> Facility is a surface impoundment, constructed with an earthen embankment and lined with an 80-mil HDPE geomembrane overlying a prepared subgrade of compacted native material. The geomembrane is secured in an engineered anchor trench. The facility is underlain by granite bedrock with relatively low hydraulic conductivity ranging from $5 \times 10^{-8}$ cm /sec to $4 \times 10^{-6}$ cm /sec. The impoundment has a fluid storage capacity of approximately 0.6 Mgal with a depth of 12 feet below the spillway. The impoundment receives impacted stormwater from the 40 Leach Dump and surface water run-off from adjacent undisturbed areas. Accumulated fluid is pumped through an HDPE pipeline to Ox3. Surface water diversion channels minimize stormwater flows into the impoundment. The facility is designed to contain run-on from the 10-year/24-hour storm event.
A41	Freshwater Overflow	33° 22' 57" N	<b>Individual BADCT:</b> Facility is an existing, unlined surface impoundment created by

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
	Pond	110° 55' 51" W	natural depression in the granite bedrock. The bedrock has a low hydraulic conductivity of $8 \times 10^{-6}$ cm /sec. The impoundment has a fluid storage capacity of approximately 0.67 Mgal. The impoundment receives stormwater overflows from the Oxhide Freshwater Pond, which is used as water source for livestock. The overflow pond impounds against the 40 Leach Dump.
TP2A	TP #2 North Pond	33° 24' 44" N 110° 54' 24" W	<b>Individual BADCT:</b> The facility is an existing surface impoundment used to store evaporate discharges from the water softener and WQARF remedial water. The pond is excavated into the clayey slime tailings, 20 to 40 feet thick, of the Tailings Impoundment No. 2. The pond has a fluid storage capacity of approximately 37 Mgal, with a depth of 5 feet.
A50	#6 Decant Pond	33° 25' 58" N 110° 50' 17" W	<b>Individual BADCT:</b> Facility is an existing, unlined surface impoundment excavated into Gila conglomerate. The bedrock has hydraulic conductivity of $4 \times 10^{-5}$ cm /sec. The impoundment has a fluid storage capacity of 0.61 Mgal with a depth of approximately 6 feet. The impoundment collects decant water from TP #6 West Pond, which contains stormwater and industrial water. Accumulated fluid gravity flows through concrete sump to the industrial water tank at Kiser Station. Surface water run-on is diverted away from the impoundment by an earthen perimeter berm.
B6	Waldo's Overflow #1 (004 Upper)	33° 24' 47" N 110° 51' 01" W	<b>Individual BADCT:</b> Facility is an existing, unlined surface impoundment constructed in Gila Conglomerate with an earthen berm. The facility was scarified, moisture conditioned, and compacted to a minimum of 95% maximum dry density within 3 percent of moisture content. The impoundment has a fluid storage capacity of 2 Mgal with a depth of approximately 10 feet below the spillway. The impoundment provides contingency storage for the overflow from the Waldo's Pond during low-frequency, high-intensity storm events.
E2	Barney North Pit Pond	33° 24' 32" N 110° 54' 48" W	
G2	BL Pit Pond	33° 23' 17" N 110° 54' 28" W	
G3	Lower Oxhide Pit Pond	33° 22' 42" N 110° 54' 59" W	
E9	Ammonium	33° 24' 19" N	<b>Prescriptive BADCT:</b> Facility is an existing, single-lined surface water pond constructed

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Table 4.1.1 Permitted Facilities and BADCT			
Facility No.	Facility Name	Latitude/Longitude	Facility BADCT
	Neutralization Pond	110° 54' 01" W	in the BL Pit with an earthen berm. The pond liner consists of an 80-mil HDPE geomembrane overlying compacted fill of natural material. The underlying bedrock is Pinal Schist with hydraulic conductivity of $9 \times 10^{-7}$ cm /sec. The pond has a fluid storage capacity of approximately 0.78 Mgal with a depth of 20 feet. The pond is used to transfer water from the BL Pit (via the BL staging Pond) to Barney Pit, C Pond, and the SX Feed Pond. The facility was originally used to neutralize acidic water for use in the mine circuit. The system is no longer used and is dismantled.
E10	BL Staging Pond	33° 24' 04" N 110° 54' 11" W	<b>Individual BADCT:</b> Facility is an existing, single-lined surface water pond constructed in the BL Pit with an earthen berm. The pond liner consists of an 80-mil HDPE geomembrane overlying compacted subgrade of natural material. The underlying bedrock is Pinal Schist with hydraulic conductivity of $9 \times 10^{-7}$ cm /sec. The pond has a fluid storage capacity of approximately 0.2 Mgal with a depth of 15 feet. The pond is used to transfer water from the BL Pit to the Ammonium Neutralization Pond as part of the BL Pit dewatering circuit.
TH9	Webster Creek Diversion	33°24' 41" N 110° 53' 19" W	<b>Individual BADCT:</b> Facility is an unlined conveyance channel for draining surface water from the Tankhouse area to a caisson. The conveyance channel is located in relatively low permeability bedrock with hydraulic conductivity of $3 \times 10^{-7}$ cm/sec.
TP6W	TP #6 West Pond (Tailings Impoundment #6)	33° 25' 16" N 110° 51' 13" W	<b>Individual BADCT:</b> Facility is an existing, unlined surface impoundment that contains stormwater and effluent from water softening system in a topographically low portion of the Tailings Impoundment No. 6. Water is decanted from the pond to No. 6 Decant Pond. The mill tailings have hydraulic conductivity of approximately $1 \times 10^{-7}$ cm/sec. Containment of the 100-year/24-hour storm event is provided by the No. 6 Tailings Impoundment. Stability of the Tailings Impoundment #6, containing the TP #6 West Pond, shall be determined under the Compliance Schedule (see Section 3.0 Compliance Schedule).
E8	Old 3 Million Reservoir	33° 24' 46" N 110°52' 13" W	Facilities shall be closed in accordance with the requirements of A.R.S. 49-252 and A.A.C. R18-9-A209(B) and (C) under the Compliance Schedule (see Section 3.0 Compliance Schedule).
G21	#1 Leach Stockpile	33° 23' 05" N 110° 55' 54" W	
Leach Dumps			
G8	#9/34/35/19 Leach Area	33° 23' 30" N	<b>Individual BADCT:</b> Facility is an existing, unlined, oxide leach area that consists of the

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<b>Table 4.1.1 Permitted Facilities and BADCT</b>			
<b>Facility No.</b>	<b>Facility Name</b>	<b>Latitude/Longitude</b>	<b>Facility BADCT</b>
		110° 53' 31" W	contiguous # 9, 19, 34 and 35 leach dumps. These dumps are constructed, using the end dumping method, over moderate-to-steeply sloping topography which minimizes the potential for discharge. The natural channels, within the leach dump footprint, are underlain by Schultz Granite bedrock with relatively low hydraulic conductivity of $6 \times 10^{-7}$ cm/sec. The facility covers a surface area of approximately 498 acres. The leachate (PLS) gravity flows to #19, 33 and 35 Reservoirs; the Upper 19 Cutoff; and to C Pond. Run-on from the 100-year/24-hour storm event is diverted away from the facility. The facility shall not exceed the aerial footprint shown in the APP application. The maximum height of the facility shall not exceed 650 feet.
G20	#40 Leach Area	33° 22' 50" N 110° 55' 34" W	<b>Individual BADCT:</b> Facility is an existing, unlined, oxide leach dump constructed, using the end dumping method, over moderate-to-steeply sloping topography which minimizes the potential for discharge. The natural channels, within the leach dump footprint, are underlain by Schultz Granite/Pinal Schist bedrock with hydraulic conductivity of $8 \times 10^{-6}$ cm/sec. The facility covers a surface area of approximately 151 acres. The leachate (PLS) gravity flows to the Ox 1a and Ox 3a impoundments. Run-on from the 100-year/24-hour storm event is diverted away from the facility. The facility shall not exceed the aerial footprint shown in the APP application. The maximum height of the facility shall not exceed 270 feet.
G24	#27/28 Leach Area	33° 25' 09" N 110° 54' 41" W	<b>Individual BADCT:</b> Facility is an existing, unlined, oxide leach area that consists of the #27 and 28 leach dumps. These dumps are constructed, using the end dumping method, over moderate-to-steeply sloping topography which minimizes the potential for discharge. The natural channels, within the leach dump footprint, are underlain by dacite, Willow Spring Grandiorite, diabase, and conglomerate bedrock with hydraulic conductivity of $5 \times 10^{-5}$ cm/sec (Dacite composite). The facility covers a surface area of approximately 390 acres. The leachate (PLS) gravity flows to the 27, 28, and North 28 Ponds. Run-on from the 100-year/24-hour storm event is diverted away from the facility. The facility shall not exceed the aerial footprint shown in the APP application. The maximum height of the facility shall not exceed 433 feet.
<b>Tailings And Slag Piles</b>			
G30	#2 Slag Pile	33° 24' 49" N	<b>Individual BADCT:</b> Facility is deposited on mill tailings, slimes and native soil in the

Table 4.1.1 Permitted Facilities and BADCT			
Facility No.	Facility Name	Latitude/Longitude	Facility BADCT
		110° 51' 39" W	Ellison Canyon. The underlying bedrock, Gila conglomerate, has hydraulic conductivity of $7 \times 10^{-7}$ cm/sec. The facility covers a maximum surface area of approximately 33 acres as of December 2004. Run-on from the 100-year/24-hour storm event is diverted away from the facility. Run-off from the facility reports through Ellison pond to industrial circuit.
G32	#3 Slag Pile	33° 24' 57" N 110° 51' 20" W	<b>Individual BADCT:</b> Facility is deposited on mill tailings, slimes and native soil north of the Smelter in ancestral Webster Gulch. The underlying bedrock, Gila conglomerate, has hydraulic conductivity of $7 \times 10^{-7}$ cm/sec. The facility covers a maximum surface area of approximately 60 acres as of December 2004. Run-on from the 100-year/24-hour storm event is diverted away from the facility. Run-off from the facility reports through No. 1 Tailings Pond and TP #6 to industrial circuit..

## Notes:

1. The primary discharge control technologies (DCTs) for each discharging facility are presented; however, additional discharge controls are discussed in the APP application and subsequent submittals and correspondence referenced in Section 5.0 of this APP.
2. Prescriptive BADCT design involves a prescribed engineering approach that utilizes pre-approved discharge control technologies or engineering equivalents to meet the requirements of A.R.S. 49-243(B)(1) as specifically described in the ADEQ Arizona Mining BADCT Guidance Manual.
3. Individual BADCT requirements are described in the ADEQ Arizona Mining BADCT Guidance Manual. For existing facilities, consideration of additional factors as listed in A.R.S. 49-243(B)(1)(a) through (h) apply.
4. Definitions/Abbreviations:  
 BADCT – Best Available Demonstrated Control Technology  
 DCT – Discharge Control Technology  
 HDPE – High density Polyethylene  
 LCRS – Leakage Collection and Removal System  
 ALR – Action Leakage Rate  
 RLL – Rapid and Large Leakage  
 ac-ft. – acre-feet  
 Mgal – Million gallons  
 Geonet – Geosynthetic drainage material composed of two bonded, overlapping HDPE strands. A typical geonet, 1/4 -inch thick, has the flow capability approximately equivalent to that of 12 inches of sand having a 0.01 cm/sec permeability.

TABLE 4.2.1 REQUIRED INSPECTIONS AND OPERATIONAL MONITORING	
Facility Name (#)	Operational Requirements
<b>Leach Dumps</b>	
#9/34/35/19 Leach Area (G8)  #40 Leach Area (G20)  #27/28 Leach Area (G24)	<p><b>Quarterly and following precipitation events measuring at least 1-inch in a 24-hour period</b> (precipitation shall be measured based on readings obtained from the nearest weather station to the applicable facility used for such measurements):</p> <p>Visually inspect and take appropriate action if any evidence of:</p> <ul style="list-style-type: none"> <li>-instability, including surface cracks, slides, sloughs or differential settlement;</li> <li>-excessive erosion in conveyances and diversions;</li> <li>-excessive accumulation of debris in conveyances and diversions; and</li> <li>-impairment of access.</li> </ul>
<b>Process Solution Impoundments – Lined</b>	
SX Feed Pond (D2) Single-lined  Raffinate Pond (D1) Single-lined  Ox 1a Reservoir (D10) Double-lined  N28 Pond (A37) Double-lined  Acid Plant Emergency Pond (AP9) Double-lined	<p><b>Daily:</b> Check and take appropriate action if any evidence of:</p> <ul style="list-style-type: none"> <li>-blockages of overflow pipes/spillway structures.</li> </ul> <p>Visually inspect and maintain applicable minimum freeboard in impoundment:</p> <ul style="list-style-type: none"> <li>-Raffinate Pond – 2 feet</li> <li>-OX 1a – 10 feet</li> <li>-N28 Pond - 2 feet below the spillway</li> <li>-Acid Plant Emergency Pond - 2 feet</li> <li>-On Pond - 2 feet</li> </ul> <p><b>Quarterly and following precipitation events measuring at least 1-inch in a 24-hour period:</b> (precipitation shall be measured based on readings obtained from the mine weather station used for such measurements):</p> <p>Visually inspect and take appropriate action if any evidence of:</p> <ul style="list-style-type: none"> <li>-perforated cut, tear or damaged liner and impairment of anchor trench integrity;</li> <li>-impairment of embankment integrity;</li> <li>-excessive erosion in conveyances and diversions;</li> <li>-excessive accumulation of debris in conveyances and diversions; and</li> <li>-impairment of access.</li> </ul> <p>At pump locations, inspect pumps, valves, electrics and structures for pump operation and structural integrity.</p>

<b>TABLE 4.2.1 REQUIRED INSPECTIONS AND OPERATIONAL MONITORING</b>	
<b>Facility Name (#)</b>	<b>Operational Requirements</b>
On Pond (D8) Double-lined	<b>Annually:</b> Remove excess sediments/sludge from the impoundment as needed to maintain at least 80 percent of designed capacity.
<b>Process Solution Impoundments – Unlined</b>	
27 Reservoir (D4)	<b>Daily:</b> Check and take appropriate action if any evidence of: -blockages of overflow pipes/spillway structures. Visually inspect and maintain applicable freeboard in impoundment: -27 Reservoir – 4 feet -28 Reservoir – 14 feet -OX 2 – 2 feet below the outlet pipe -Ox 3a – 7 feet -Upper Oxhide Pit – 40 feet below the discharge point -#9 Pumpback – 25 feet -19 Reservoir - 28 feet -33 Reservoir - 12 feet -35 Reservoir - 13 feet -C Pond - 2 feet -Davis Canyon Reservoir - 4 feet -South Detention Pond - 2 feet  <u>Ox 3a (D12)</u> Visually inspect manually controlled pumpback system for pump operation and structural integrity.  <b>Quarterly and following precipitation events measuring at least 1-inch in a 24-hour period:</b> (precipitation shall be measured based on readings obtained from the nearest weather station to the applicable facility used for such measurements): Visually inspect and take appropriate action if any evidence of: -impairment of embankment integrity; - excessive erosion in conveyances and diversions; -excessive accumulation of debris in conveyances and diversions; and -impairment of access.  At pump locations, inspect pumps, valves, electrics and structures for pump operation and structural integrity.
28 Reservoir (D5)	
OX 2 Reservoir (D11)	
Ox 3a Reservoir (D12)	
Upper Oxhide Pit Pond (E1)	
#9 Pumpback (E11)	
Upper 19 Cutoff (A30)	
19 Reservoir (D3)	
33 Reservoir (D6)	
35 Reservoir (D7)	



<b>TABLE 4.2.1 REQUIRED INSPECTIONS AND OPERATIONAL MONITORING</b>	
<b>Facility Name (#)</b>	<b>Operational Requirements</b>
C Pond (D9)  Davis Canyon Reservoir (D13)  South Detention Pond (D14)	<b>Annually:</b> Remove excess sediments/sludge from the impoundment as needed to maintain at least 80 percent of designed capacity.
<b>Non-stormwater Impoundments – Lined</b>	
Waldo's Pond (A16)  Middle 19 Cutoff (A31)  Lower 19 Cutoff (A32)  Cowboy Pond (A36)  Ammonium Neutralization Pond (E9)  BL Staging Pond (E10)	<b>Weekly:</b> Visually inspect and maintain an applicable freeboard: - Lower 19 Cutoff - 2 feet - Cowboy Pond - 2 feet - Ammonium Neutralization Pond – 1 foot - BL Staging Pond – 1 foot  <b>Quarterly and following precipitation events measuring at least 1-inch in a 24-hour period:</b> (precipitation shall be measured based on readings obtained from the mine weather station used for such measurements): Visually inspect and take appropriate action if any evidence of: - perforated cut, tear or damaged liner and impairment of anchor trench integrity; - impairment of embankment integrity; - excessive erosion or accumulation of debris in conveyances and diversions; and - impairment of access.  At pump location, inspect pump, valves, electrics and structure for pump operation and structural integrity. If a portable pump is used, ensure that the pump is operational and is readily available for use.  <b>Annually:</b> Remove excess sediments/sludge from the impoundment as needed to maintain at least 80 percent of designed capacity.  <u><b>Specific Requirement</b></u> Remove accumulated fluid – the process solution or impacted stormwater due to process upsets and/or storm event, from the impoundment as soon as practical, but no later than thirty (30) days after cessation of the process upset or storm event.

TABLE 4.2.1 REQUIRED INSPECTIONS AND OPERATIONAL MONITORING	
Facility Name (#)	Operational Requirements
<b>Non-stormwater Impoundments – Unlined</b>	
#6 Decant Pond (A50)	<p>Visually inspect and maintain applicable freeboard in impoundment: -Waldo's Overflow #1 - 2 feet</p> <p><b>Quarterly and following precipitation events measuring at least 1-inch in a 24-hour period:</b> (precipitation shall be measured based on readings obtained from the nearest weather station to the applicable facility used for such measurements):</p> <p>Visually inspect and take appropriate action if any evidence of:</p> <ul style="list-style-type: none"> <li>- excessive erosion or accumulation of debris in conveyances and diversions; and</li> <li>- impairment of access;</li> </ul> <p>At pump installations, inspect pumps, valves, electrics and structures for pump operation and structural integrity.</p> <p><b>Annually:</b> Remove excess sediments/sludge from the impoundment as needed to maintain at least 80 percent of designed capacity.</p> <p><b><u>Specific Requirement</u></b> Remove accumulated fluid – the process solution or impacted stormwater due to process upsets and/or storm event, from the impoundment as soon as practical, but no later than thirty (30) days after cessation of the process upset or storm event.</p>
Waldo's Overflow #1 (004 Upper) (B6)	
Ioli (A1)	
Tretheway (A3)	
Freshwater Overflow Pond (A41)	
Webster Creek Diversion (TH9)	

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<b>Table 4.2.2 Table of Parameters for Ambient Groundwater Monitoring for All Point of Compliance (POC) Wells(In mg/L unless otherwise noted)</b>		
Depth to Water Level (ft.)	Magnesium	Molybdenum
Water Level Elevation (ft amsl)	Potassium	Nickel
Temperature - field (°F)	Sodium	Selenium
pH - field & lab (SU)	Iron	TPH
Field Specific Conductance (µmhos/cm)	Aluminum	Thallium
Total Dissolved Solids –lab	Antimony	Zinc
Total Alkalinity	Arsenic	<sup>1</sup> Gross Alpha Particle Activity (pCi/L)
Carbonate	Barium	Radium 226 (pCi/L)
Bicarbonate	Beryllium	Radium 228 (pCi/L)
Hydroxide	Cadmium	Uranium
Sulfate	Chromium	Benzene
Chloride	Cobalt	Toluene
Fluoride	Copper	Ethylbenzene
Nitrate-Nitrite as N	Lead	Total Xylenes
Total Cyanide	Manganese	
Calcium	Mercury	

- 1 If Gross Alpha Particle Activity is greater than 15 pCi/L, then test for adjusted gross alpha particle activity. The adjusted gross alpha particle activity is the gross alpha activity, including radium 226, minus radon and total uranium (the sum of the uranium 238, uranium 235 and uranium 234 isotopes).
- 2 Metals shall be analyzed as dissolved metals.

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**Table 4.2.3 QUARTERLY COMPLIANCE GROUNDWATER MONITORING FOR POC WELLS**

PARAMETER	H-1		N28-1		BT-89	
	AQL	AL	AQL	AL	AQL	AL
Depth to Water (feet)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Water Level Elevation (in feet amsl)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Field pH (S.U.)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Specific Conductance-Field (µmhos/cm)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Temperature Field (°F)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Total Dissolved Solids	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Fluoride	Res.	Res.	Res.	Res.	Res.	Res.
Nitrate-Nitrite as N	Res.	Res.	Res.	Res.	Res.	Res.
Sulfate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Antimony	Res.	Res.	Res.	Res.	Res.	Res.
Arsenic	Res.	Res.	Res.	Res.	Res.	Res.
Barium	Res.	Res.	Res.	Res.	Res.	Res.
Beryllium	Res.	Res.	Res.	Res.	Res.	Res.
Cadmium	Res.	Res.	Res.	Res.	Res.	Res.
Cobalt	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Chromium	Res.	Res.	Res.	Res.	Res.	Res.
Copper	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Iron	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Lead	Res.	Res.	Res.	Res.	Res.	Res.
Manganese	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Mercury	Res.	Res.	Res.	Res.	Res.	Res.
Molybdenum	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Nickel	Res.	Res.	Res.	Res.	Res.	Res.
Selenium	Res.	Res.	Res.	Res.	Res.	Res.
Thallium	Res.	Res.	Res.	Res.	Res.	Res.
Zinc	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor

Res. = Reserved means that ADEQ will establish an AQL and AL based on the ambient monitoring performed under Section 2.5.3.3.

Monitor = Analysis is required but an AQL and/or AL is not established in the permit

AQL = Aquifer Quality Limit.

AL = Alert Level.

All concentrations in milligrams per liter (mg/L) unless otherwise noted. Metals shall be analyzed as dissolved metals. Use Table 4.2.4 parameters for biennial sampling events.

The other POCs referenced in Table 2.4.1 shall be monitored according to WQARF specified parameters and frequencies until the WQARF RAP cleanup goals are met. At that time the permit shall be amended to include monitoring of those POCs according to this table.

**Table 4.2.4 BIENNIAL COMPLIANCE GROUNDWATER MONITORING REQUIREMENTS FOR POC WELLS**

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<b>PARAMETER</b>	<b>H-1 AQL</b>	<b>AL</b>	<b>N28-1 AQL</b>	<b>AL</b>	<b>BT-89 AQL</b>	<b>AL</b>
Depth to Water (feet)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Water Level Elevation (in feet amsl)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Field pH (S.U.)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Specific Conductance – Field (µmhos/cm)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Temperature Field (F)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Total Dissolved Solids	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Total Alkalinity	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Carbonate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Bicarbonate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Hydroxide	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Chloride	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Sulfate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Calcium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Magnesium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Potassium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Sodium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Nitrate + Nitrite	Res.	Res.	Res.	Res.	Res.	Res.
Total Cyanide	Res.	Res.	Res.	Res.	Res.	Res.
Fluoride	Res.	Res.	Res.	Res.	Res.	Res.
Aluminum	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Antimony	Res.	Res.	Res.	Res.	Res.	Res.
Arsenic	Res.	Res.	Res.	Res.	Res.	Res.
Barium	Res.	Res.	Res.	Res.	Res.	Res.
Beryllium	Res.	Res.	Res.	Res.	Res.	Res.
Cadmium	Res.	Res.	Res.	Res.	Res.	Res.
Chromium	Res.	Res.	Res.	Res.	Res.	Res.
Iron	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Lead	Res.	Res.	Res.	Res.	Res.	Res.
Mercury	Res.	Res.	Res.	Res.	Res.	Res.
Nickel	Res.	Res.	Res.	Res.	Res.	Res.
Selenium	Res.	Res.	Res.	Res.	Res.	Res.
Thallium	Res.	Res.	Res.	Res.	Res.	Res.
Copper	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Cobalt	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Manganese	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Zinc	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Gross Alpha Particle Activity (pCi/L)	Res.	Res.	Res.	Res.	Res.	Res.
Radium 226 + Radium 228 (pCi/L)	Res.	Res.	Res.	Res.	Res.	Res.

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**Table 4.2.4 BIENNIAL COMPLIANCE GROUNDWATER MONITORING REQUIREMENTS FOR POC WELLS**

PARAMETER	H-1		N28-1		BT-89	
	AQL	AL	AQL	AL	AQL	AL
Uranium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Molybdenum	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
TPH	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Benzene	Res.	Res.	Res.	Res.	Res.	Res.
Toluene	Res.	Res.	Res.	Res.	Res.	Res.
Ethylbenzene	Res.	Res.	Res.	Res.	Res.	Res.
Total Xylenes	Res.	Res.	Res.	Res.	Res.	Res.

Res. = Reserved means that ADEQ will establish an AQL and AL based on the ambient monitoring performed under Section 2.5.3.3.

Monitor = Analysis is required but an AQL and/or AL is not established in the permit.

AQL = Aquifer Quality Limit.

AL = Alert Level.

All concentrations in milligrams per liter (mg/L) except where noted.

Metals shall be analyzed as dissolved metals.

If the gross alpha particle activity is greater than 15 pCi/L, then test for adjusted gross alpha particle activity. The adjusted gross alpha particle activity is the gross alpha particle activity including radium 226, minus radon and total uranium (the sum of the uranium 238, 235 and 234 isotopes).

Use Table 4.2.3 parameters for quarterly sampling events between biennial events.

The other POCs referenced in Table 2.4.1 shall be monitored according to WQARF specified parameters and frequencies until the WQARF RAP cleanup goals are met. At that time the permit shall be amended to include monitoring of those POCs according to this table.

**5.0 REFERENCES AND PERTINENT INFORMATION**

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application dated April 1997.
2. Public Notice, dated \_\_\_\_\_.
3. Public Hearing, dated \_\_\_\_\_.
4. Responsiveness Summary, dated \_\_\_\_\_.
5. APP File, Inventory Number 100523.

**6.0 NOTIFICATION PROVISIONS****6.1 Annual Registration Fees**

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242(D).

**6.2 Duty to Comply [A.R.S. §§ 49-221 through 49-263]**

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

**6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]**

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

**6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]**

The permittee shall not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an aquifer water quality standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

**6.5 Technical and Financial Capability**

**[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]**

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

**6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]**

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee.
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

**6.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]**

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

**6.8 Inspection and Entry [A.R.S. §§ 41-1009, 49-203(B) and 49-243(K)(8)]**

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.



**6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]**

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

**6.10 Permit Action: Amendment, Transfer, Suspension & Revocation**

**[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

This permit may be amended, transferred, renewed, or revoked for cause, under the rules of the Department.

The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

**7.0 ADDITIONAL PERMIT CONDITIONS**

**7.1 Other Information [A.R.S. § 49-243(K)(8)]**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

**7.2 Severability**

**[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

**7.3 Permit Transfer**

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).